

1st European Pond Workshop

«Conservation and monitoring of pond biodiversity»

A meeting co-organised by University of Applied Sciences of Western Switzerland, University of Geneva, University of Toulouse 3, The Pond Conservation Trust, and held at the Ecole d'Ingénieurs HES Lullier-Geneva, Switzerland, 28-30 October 2004.

Guest Editors: Beat OERTLI¹, Dominique AUDERSET JOYE², Nicola INDERMUEHLE¹, Raphaëlle JUGE² and Jean-Bernard LACHAVANNE²

Ponds are waterbodies usually smaller than lakes. Forel (1904) described them as lakes where the deep aphotic zone is missing. The Pond Conservation (Biggs et al. 2005) proposes a definition partly dependant upon morphological criteria: "Waterbodies between 25 m² and 2 ha in area which may be permanent or seasonal, including both man-made and natural waterbodies". Another definition suggested by University of Geneva (Oertli et al. 2000) adds also a criterion linked to functioning: "A pond is a waterbody with a maximal depth smaller than 8 m, offering to water plants the opportunity to colonise the entire area". Ponds are an essential freshwater habitat for plants and animals. For example a review of the habitat preferences of aquatic fauna and flora species (Oertli et al. 2000) demonstrated that most species are potential inhabitants of ponds (62 to 88%, according to the taxonomic group), some of them even being "endemic" to ponds (Fig.1). Therefore, at a regional level, ponds can contribute most to freshwater biodiversity. They support considerably more species, more unique species and more scarce species than other waterbody types (Williams et al. 2004). In addition to be biodiversity "hotspots", ponds have many other functions relating to education, recreation, economy, hydrology, culture and aesthetics. Despite their importance, relatively little resources are invested in pond conservation in Europe. Furthermore, the scientific basis for the management and conservation of ponds is currently weak compared to the information available for other freshwater habitats. Some national environment agencies from countries such as the United Kingdom, France and Switzerland, have recently developed elements of a national strategy for pond

conservation. There is now need to strengthen and develop these initiatives and to build a common framework in order to establish a sound scientific basis for pond conservation in Europe.

This context has motivated the European researchers and managers involved in pond conservation (fundamental or applied issues) to meet in this "1st European Pond Workshop" devoted to "Conservation and monitoring of Pond Biodiversity". Three objectives were given for this first meeting: (i) synthesis of present knowledge on conservation and monitoring of pond biodiversity (scientific basis, methods, assessment and monitoring, case studies), (ii) launch of international initiatives (projects involving different European teams), (iii) setting up an European network of people and institutions involved in the conservation of ponds.

The meeting brought together close to 100 participants from eleven countries: Belgium, Denmark, France, Germany, Hungary, Ireland, Italy, Moldavia, Poland, Spain, Switzerland and United Kingdom. It was structured in three parts: (i) a plenary session with the presentation of 45 communications (oral or posters), (ii) five working group meetings, and (iii) two field trips to local ponds (alpine ponds and restored alluvial ponds).

This special issue of *Archives des Sciences* (n°57, 2004) presents a selection of 8 communications; another selection of 14 papers is presented in a special issue of *Aquatic Conservation* to be published in 2005.

The main issue of the working sessions organised in the framework of the 1st European Pond Workshop was the launching of the "European Pond Conservation Network" (EPCN), with the mission of

¹ University of Applied Sciences of Western Switzerland, EIL, Lullier, 150 route de Presinge, CH-1254 Jussy-Geneva, Switzerland

² University of Geneva, Laboratory of Ecology and Aquatic Biology, 18 chemin des Clochettes, CH-1206 Geneva, Switzerland

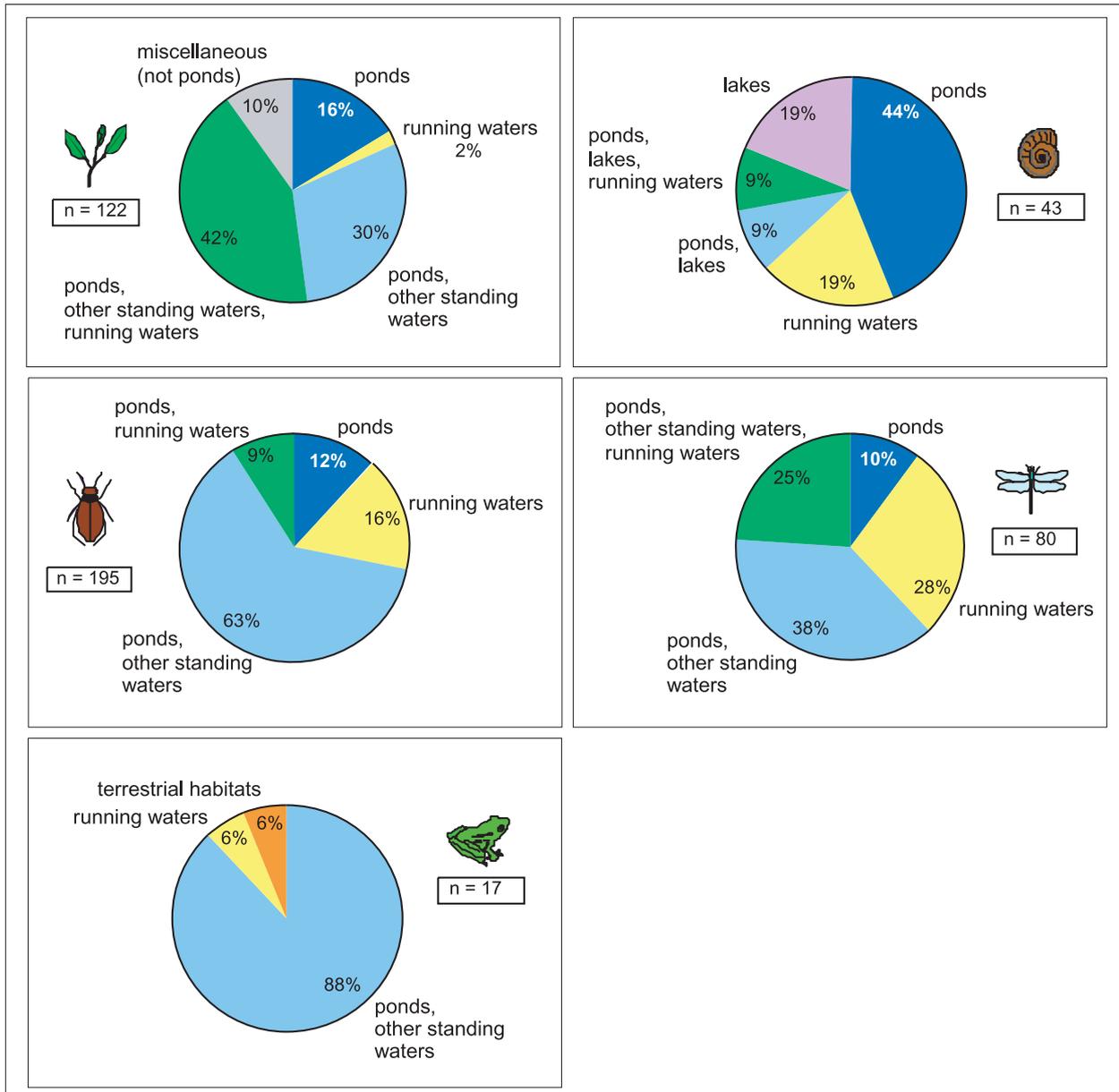


Fig. 1: Preferences of aquatic fauna and flora species for various freshwater habitats: running waters, lakes, ponds or other standing waters (e.g. wetlands, pools, peatlands). Species pool and sources of information on habitat preference: 122 British water plant species (Haslam 1975), 43 Swiss freshwater Gastropoda species (Turner et al. 1998; Falkner et al. 2001), 195 British water beetle species (Friday 1988), 80 Swiss Odonata species (Dommanget 1987), 18 Swiss Amphibian species (Borgula et al. 1994).

"Promoting awareness, understanding and conservation of ponds in a changing European landscape". A website (www.epcn.org) presents the objectives, the activities and the publications of this network.

This workshop is expected to be the first one of a long series: this type of meeting will be periodically reconducted. The second workshop will be held in Toulouse in February 2006 (23th-25th) with the main topic "Conservation of pond biodiversity in a changing European landscape". It will be co-

organised by University of Toulouse 3, University of Applied Sciences of Western Switzerland, University of Geneva, University of Leuven, the Ponds Conservation and "Pôle Mares et Mouillères de France".

Acknowledgements

The workshop was supported by the Swiss National Science Foundation, the Swiss Academy of Sciences, the University of Geneva, the University of Applied Sciences of Western Switzerland (EIL Lullier-Geneva), the Canton of Geneva (Département de

l'Intérieur, de l'Agriculture et de l'Environnement; Service de la Faune, de la Protection de la Nature et du Paysage). Thanks to all the manuscript reviewers for the useful improvement of the eight manuscripts. Special thanks to the "Société de Physique et

d'Histoire Naturelle de Genève" for the financial support and for the publication of this special issue, and also to Dr R. Degli Agosti (chief editor of Archives des Sciences) for coordinating the edition and the publication.

References

- **BIGGS J, WILLIAMS P, WHITFIELD P, NICOLET P, WEATHERBY A.** 2005. 15 years of pond assessment in Britain: results and lessons learned from the work of Pond Conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* 15: 693-714.
- **BORGULA A, FALLOT P, RYSER J.** 1994. Inventaire des sites de reproduction de batraciens d'importance nationale. OFEFP, Berne.
- **DOMMANGET J-L.** 1987. Etude faunistique et bibliographique des Odonates de France. Muséum National d'Histoire Naturelle, Paris.
- **FALKNER G, OBRDLIK P, CASTELLA E, SPEIGHT MCD** (eds.). 2001. Shelled Gastropoda of Western Europe. Friedrich-Held-Gesellschaft, München.
- **FOREL F-A.** 1904. Le Léman. Monographie limnologique. Tome III. Slatkine Reprints. 1969, Genève.
- **FRIDAY LE.** 1988. A key to the adults of British water beetles. AIDGAP Publications, Cambridge.
- **HASLAM S, SINKER C, WOLSELEY P.** 1975. British water plants. FSC Publications SI, London.
- **OERTLI B, AUDERSET JOYE D, CASTELLA E, JUGE R, LACHAVANNE J-B.** 2000. Diversité biologique et typologie écologique des étangs et petits lacs de Suisse. OFEFP. LEBA, Université de Genève, Genève.
- **TURNER H, KUIPER JGJ, THEW N, BERNASCONI R, RÜETSCHI J, WÜTRICH M, GOSTELI M.** 1998. Atlas der Mollusken der Schweiz und Liechtensteins. CSCF, SEG, EFWSL, Neuchâtel.
- **WILLIAMS P, WHITFIELD M, BIGGS J, BRAY S, FOX G, NICOLET P, SEAR D.** 2004. Comparative biodiversity of rivers, streams, ditches and ponds in an agricultural landscape in Southern England. *Biological Conservation* 115: 329-341.